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ABSTRACT

Outcomes of an Advanced Placement Program that has been implemented in 15 southern states to improve student achievement are examined in this report. The program gives students the opportunity to take college-level courses for college credit, dependent upon passing the Advanced Placement Examination. Following a description of the program and its growth throughout the region, state initiatives that have contributed to its success are described. Analysis of 1988 Advanced Placement Examination scores indicates that three states surpassed the national average, three states surpassed the regional average, and the numbers of minority students passing the examination increased significantly. Steady regional growth of the program suggests that public schools are making measurable progress in improving academic achievement. Three tables and one figure are included. (LMI)

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REGIONAL SPOTLIGHT

SOUTHERN REGIONAL EDUCATION BOARD

NEWS OF EDUCATION IN SREB STATES

Progress Toward Excellence in Education:

The Advanced Placement Program in SREB States

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REGIONAL SPOTLIGHT

SOUTHERN REGIONAL EDUCATION BOARD

NEWS OF EDUCATION IN SREB STATES

Progress Toward Excellence in Education:

The Advanced Placement Program in SREB States

Tired of seeing reports on student achievement where the SREB states seem to be fighting for last place? Discouraged by studies showing SREB states leading in dropout rates, college students needing remedial courses, or proportion of adults with low literacy skills? Looking for some place where SREB states are showing they can compete successfully with other states in an area of high quality academic achievement? Then it is time to take a look at what many of the SREB states are achieving in the Advanced Placement Program—a program that can serve as a driving force for improving school curricula.

The Southern Regional Education Board (SREB) and its Commission for Educational Quality in *Goals for Education: Challenge 2000* made the point that states are ". . . already encountering the real—not theoretical—problem of a job market that requires more education." The report goes on to say ". . . it is not clear that our educational systems are on schedule to produce the persons needed for the jobs of the twenty-first century." The report concluded that it is essential that states set clear goals for education and establish indicators to measure progress toward reaching these goals.

By the year 2000 —

"Student achievement for elementary and secondary students will be at national levels or higher."

That is one of the goals proposed by SREB. Two of the eight indicators of progress suggested by SREB for reaching this goal are related to the Advanced Placement Program:

- Increasing the percentage of high schools offering Advanced Placement courses for college credit to at least 60 percent and the percentage of students taking the Advanced Placement examinations to the national average or higher.
- Increasing the "passing" rate (score of 3 or above) on Advanced Placement examinations to the national average or higher.

Why use Advanced Placement performance as an indicator? The answer is very simple. This program represents high quality content and student performance, and it establishes a national standard for judging outcomes. There is every reason to believe that any SREB state can reach these targets once it has made the decision to do so and commits resources toward that end. Consider the evidence:

In 1988 —

- 3 SREB states had percentages of students scoring 3 or better (scores of 3 and above generally are accepted for college credit) on Advanced Placement examinations that were higher than the national average.
- 4 SREB states were in the top 10 states in the nation in terms of percentage of high school graduates taking AP examinations; 8 were in the top half of all states.
- More than twice as many minority students in SREB states scored 3 or higher on AP examinations than in 1984.

EA 023 428

Description of the Advanced Placement Program

The Advanced Placement (AP) Program, a 30-year-old program sponsored by The College Board, provides a way for high schools to offer college-level coursework to talented, motivated students. When the program began, only 12 colleges granted credit and advanced placement to students in 18 participating high schools. By May 1988, 2,136 colleges and 8,247 private and public secondary schools were participating in the AP Program. Approximately 75 percent of these schools are public schools.

The program, which is organized in two parts, encourages secondary schools to work with colleges and universities to raise student achievement and improve curricula. The first part consists of outlines of content that should be included in an Advanced Placement course. These course outlines and curricula, which may be revised annually to meet the changing requirements of students and colleges, are developed by a committee of secondary school and college teachers. Texts and materials commonly in use in colleges and universities are used in the AP courses, which are taught in the participating high schools as electives.

The second part of the AP Program consists of annual examinations to assess the performance of students who have taken the Advanced Placement courses. In 1988, examinations were available for 29 course offerings in 15 subject areas, ranging from art to physics, and including the humanities and technical and scientific fields. These examinations (or evaluations, as in the case of studio art studies) include both multiple choice and essay questions, which are graded according to a national standard by readers who are college or high school teachers. Essay evaluations and multiple-choice scores are combined and converted to a five-point scale: 5 = extremely well-qualified; 4 = well-qualified; 3 = qualified; 2 = possibly qualified; 1 = no recommendation. Scores of 3 and above generally are accepted for college credit and advanced placement at participating universities and colleges.

Program Growth in SREB States

In 1984, public and private schools in SREB states comprised approximately 28 percent (1,727) of the nation's 6,273 secondary schools (27 percent of all schools) that participated in the AP Program. By 1988, 35 percent (8,247) of the nation's high schools participated in the Advanced Placement Program. The 2,535 AP schools in SREB states accounted for more than 31 percent of that total. The overall rate of growth in numbers of participating public and private schools in SREB states since 1984—47 percent—is considerably greater than the national average of 31 percent.

States that already recorded relatively high rates of school participation in 1984, such as Maryland (58 percent) and Virginia (42 percent), as one might suspect, have had relatively slower recent growth in the AP program. However, states with relatively low AP participation in 1984, such as Alabama (12 percent), Arkansas (5 percent), Kentucky (17 percent), and West Virginia (7 percent), showed substantial increases by 1988. Alabama, for example, went from 69 AP schools in 1984 to 227 in 1988; approximately 200 (88 percent) are public schools. Kentucky doubled its number of AP schools, from 67 schools in 1984 to 134 schools in 1988. Arkansas added 38 schools to its AP program during that same period, and West Virginia added 44 schools. The tremendous growth of the AP Program at both public and private schools in the SREB region is shown in the numbers of schools offering AP courses, the numbers of students taking examinations, and the numbers of examinations taken.

Public Schools

As the number of schools, both public and private, participating in the AP Program grows, the number of students reached increases proportionately. Between 1984 and 1988, the number of public school students in the region taking AP examinations increased by 113 percent to more than 71,000 students. Several SREB states have shown marked increases in rates of student participation at their public schools (Table 1).

Four SREB states (Florida, South Carolina, Virginia, and Maryland) were included in the top 10 states nationally that had the highest numbers of AP exams per 100 graduating public high school seniors in 1987-1988. And eight SREB states (those mentioned above plus Tennessee, Georgia, North Carolina, and Alabama) are in the top half of all 50 states (Table 2).

Increases in college participation also reflect overall growth in the Advanced Placement Program. In 1984, 1,860 public and private colleges and universities across the nation received AP examination scores. By 1988, that figure had grown to 2,136 institutions—almost two-thirds of all two-year and four-year institutions of higher education in the nation; 32 percent of those colleges and universities were in SREB states. As more high schools participate in the AP Program, and more students have AP scores reported to institutions, colleges and universities must respond by providing either advanced class standing or college credit to continue attracting these highly qualified students.

Table 1

Student Participation in the Advanced Placement Program
Candidates and Examinations, Public Schools
SREB States, 1984 and 1988

	Candidates			Examinations		
	Total Public School Candidates 1984	Total Public School Candidates 1988	Percent Increase in Total AP Public School Candidates 1984 to 1988	Total Public School Examinations 1984	Total Public School Examinations 1988	Percent Increase in Total AP Public School Examinations 1984 to 1988
United States	129,308	226,021	75%	170,674	324,755	90%
SREB States	33,426	71,359	113	42,683	101,848	139
Alabama	849	3,448	306	954	4,168	337
Arkansas	265	750	183	316	894	183
Florida	7,410	17,043	130	9,685	25,111	159
Georgia	2,162	4,717	118	2,512	5,864	133
Kentucky	682	2,426	256	760	3,592	373
Louisiana	489	1,188	143	601	1,553	158
Maryland	4,038	5,568	38	5,698	8,543	50
Mississippi	559	828	48	632	997	58
North Carolina	3,388	5,659	67	4,244	7,676	81
Oklahoma	454	1,056	133	571	1,361	138
South Carolina	2,400	6,254	161	3,046	8,767	188
Tennessee	1,713	3,396	98	2,165	4,516	109
Texas	4,020	8,772	118	5,175	12,811	148
Virginia	4,848	9,389	94	6,143	14,924	143
West Virginia	149	865	481	181	1,071	492

NOTE: Because some students may take more than one exam, the number of examinations exceeds the number of candidates.

"Candidates" represents all students in grades 10-12 who took AP examinations. Seniors (12th-graders) made up the majority (62%) of AP candidates in 1988.

SOURCE: The College Board Advanced Placement Examination statistics, 1984 and 1988.

State Initiatives for the Advanced Placement Program

Although the program has grown steadily in all SREB states in recent years, states that have established special regulations or passed legislation to support participation in the Advanced Placement Program through funding have recorded the strongest growth in the participation of candidates, examinations, and schools (both public and private).

Alabama is a case in point. The Advanced Placement Program in Alabama grew from 69 schools in 1984 to 227 in 1988, an increase of more than 200 percent. The number of public school students taking AP courses and examinations grew from 849 in 1984 to 3,448 in 1988, an increase of more than 300 percent. This growth can be attributed in large part to the specific endorsement of the AP Program by the State Board of Education and the Department of Education and Alabama's initiation of its "Plan for Excellence," which includes offering honors diplomas to students who can fulfill honors requirements through Advanced Placement courses.

Table 2

Advanced Placement Candidates as Percent of High School Graduates

Ranking by State — 1988

State	Percent	State	Percent	State	Percent
Utah	27.2	Oregon	10.7	Minnesota	4.9
District of Columbia	22.5	New Hampshire	10.3	Illinois	4.7
Florida	**21.1**	Vermont	10.2	Nebraska	4.2
New York	19.3	**Tennessee**	**9.8**	**West Virginia**	**4.0**
California	18.3	**Georgia**	**9.7**	Kansas	4.0
South Carolina	**17.5**	**North Carolina**	**9.3**	Montana	3.8
Virginia	**16.2**	Arizona	8.6	Missouri	3.7
Maryland	**15.0**	Washington	8.6	**Louisiana**	**3.7**
Colorado	14.3	**Alabama**	**8.6**	**Oklahoma**	**3.7**
Connecticut	14.3	New Mexico	8.1	**Mississippi**	**3.5**
Massachusetts	13.8	Pennsylvania	7.7	Wyoming	3.5
Delaware	13.4	**Kentucky**	**7.5**	Wisconsin	3.4
Hawaii	12.5	Michigan	7.5	Indiana	3.0
Alaska	12.4	Ohio	7.4	Iowa	2.8
Nevada	11.5	Maine	7.1	**Arkansas**	**2.7**
Rhode Island	10.9	**Texas**	**6.0**	South Dakota	1.9
New Jersey	10.8	Idaho	6.0	North Dakota	1.6

NOTE: Percentages were calculated by dividing the total number of 1988 Advanced Placement candidates by the number of high school graduates using latest available data (public high schools: 1987; private high schools: 1980).

SOURCE: U.S. Department of Education "Wall Chart," 1989.

Approximately one-half million dollars was included in the Alabama State Department of Education budget for participation in the Advanced Placement Program in the 1988-89 school year. These funds support existing AP programs, specialized training for AP teachers, and new programs. At least one student from each AP class must take an AP examination for that school to qualify for funds to maintain the AP program in the next year. Additional funds, which are allocated based on the number of AP courses offered at a school, are available to schools with any students who score 3 or higher on an AP examination.

Florida was the first state in the SREB region, and one of the first in the nation, to pass legislation (1984) providing financial support for public school systems that participate in the Advanced Placement Program. Systems that have any students scoring 3 or higher on the AP examinations receive additional funding, which can be used for in-service training and classroom materials for AP teachers. Many school districts also pay the $57.00 examination fee for AP students. As a result, the number of Florida schools (both public and private) participating in the AP Program has increased by 28 percent, from 233 in 1984 to 299 in 1988. Over 9,600 more public school students took the AP examinations in 1988 than in 1984, an increase of 130 percent.

South Carolina also passed comprehensive legislation in 1984 which includes actions to strengthen and increase AP participation at all public high schools in the state. This legislation states that Advanced Placement courses and examinations must be made available to all 11th- and 12th-graders in South Carolina public high schools (some smaller schools combine their efforts). All costs are borne by the state, including paying for instructional materials, examination fees, and the AP Summer Institutes that provide specialized training for AP teachers. Also, all state colleges and universities are required to grant advanced placement and credit to students who score 3 or higher on the examinations, which gives students an extra incentive to perform well.

This state-level support boosted public and private school AP participation in South Carolina from 32 percent (124 schools) in 1984 to 52 percent (199 schools) in 1988. The number of South Carolina public school students taking AP courses jumped from 2,400 in 1984 to 6,254 in 1988. South Carolina Department of Education officials anticipate nearly 100 percent participation among public high schools in the 1989-90 school year as the legislation is implemented.

In **Kentucky**, the Commonwealth Diploma Program encourages students to prepare for postsecondary education by participating in a "challenging academic program" in high school. A student must complete four AP courses and take examinations in three of them to qualify for a Commonwealth Diploma. The Kentucky Department of Education also reimburses the examination fees of all students who receive a composite score of at least 5 for all three AP examinations.

School districts in Kentucky can, at their discretion, use funds budgeted for their Gifted Education programs for Advanced Placement courses and training. The state has more than doubled its participation in the Advanced Placement Program since 1984, when only 67 schools participated, and the number of public school students taking AP examinations has grown more than 250 percent—from 682 to 2,426 in 1988.

Mississippi passed a law this year requiring that Gifted and Talented Student programs be offered in all public school districts by 1992. Currently, Advanced Placement courses are funded under the Academically Gifted component of this program. The state pays teachers' salaries for that portion of the school day that they teach Advanced Placement courses. To qualify for this funding, AP teachers must take the College Board-sponsored AP seminars. AP classes must have at least 7 students but no more than 14, and these courses may be substituted for any college-preparatory course generally accepted for credit toward graduation.

Students are selected for Mississippi's Academically Talented program on the basis of their scores on the American College Test (ACT), Scholastic Aptitude Test (SAT), the California Achievement Test (CAT), or other nationally recognized standardized test. During the 1988-89 school year, AP courses were funded for almost 1,100 public school students in the 11th and 12th grades. Mississippi expects at least eight more public school districts to join the Academically Talented Program during the 1989-90 school year, bringing approximately 400 more students into the program.

Oklahoma has taken an unusual step to expand public school students' access to AP courses. Oklahoma State University's Arts and Sciences Extension Office offers live, interactive television courses in a variety of subjects, including Advanced Placement physics, chemistry, calculus, and American government, via satellite with telephone and computer links. This makes it possible for public schools in rural areas to participate in the Advanced Placement Program without the expense of materials or additional teacher training. The TV courses are taught by staff at Oklahoma State University; examinations are administered through the Arts and Sciences Extension Office. During the 1988-89 school year, 72 schools offered AP physics, 9 schools offered AP calculus, and 8 schools offered AP American government through this innovative TV project. AP chemistry is being added to the course offering for the 1989-90 school year. During the upcoming 1989-90 school year, Oklahoma expects more than half of the nearly 300 public schools subscribing to the interactive service to offer Advanced Placement courses to their students.

Virginia passed a law in 1987 requiring that all public high schools must make available for credit to 11th and 12th grade students at least two Advanced Placement or college-level courses. This law, which went into effect with the 1988-89 school year, should increase the already high student participation at public schools in the state. Virginia also offers an Advanced Studies Program. Students who successfully complete at least one AP course while pursuing the Advanced Studies Diploma also will receive a "Governor's Seal" on their diplomas.

Although **Georgia's** public school systems generally act independently in setting up and maintaining Advanced Placement Programs, the state education budget includes provisions to pay salaries for teachers of some AP courses. It should be noted that as the Advanced Placement program in Georgia has grown, students' scores on the Advanced Placement examinations have not dropped, as sometimes happens. Scores of Georgia students have approached the national average for the past three years.

In many SREB states, individual public school districts take responsibility for coordinating and funding AP Programs, although the state departments of education encourage participation and credit AP courses toward high school graduation requirements. For example, although 62 percent of its schools participate in the Advanced Placement program, Maryland does not have a comprehensive state policy to encourage participation.

The AP Program as a Measure of Improvement

As an indicator of improvement in the student achievement levels, the Southern Regional Education Board has recommended bringing the scores of

public school students on the AP examinations in line with national averages and increasing the "passing" rate (scores of 3 or higher) on Advanced Placement examinations to the national average by the year 2000. Participation and success in the AP Program encourage students to take more challenging courses in high school and indicate that educational goals in the SREB region are being achieved.

In 1988, several SREB states recorded student performance on Advanced Placement examinations above the national average. For example, in Virginia, nearly 11,000 (72 percent) of public school students taking the examinations scored 3 or higher on the examinations. In Texas, 68 percent of public school students were equally successful; and 71 percent of Maryland's public school AP candidates also scored at least 3 on the examinations. In Arkansas, North Carolina, and Georgia at least 61 percent of the public school students scored 3 or better on the AP examinations (Figure 1).

It is not unusual for some schools or districts to experience a temporary decline in overall examination scores when additional students and schools first join the program. At the outset, teachers are inexperienced with Advanced Placement courses and the students may not have the desired prerequisite courses. History shows that this trend is likely to resolve itself as students and teachers become more accustomed to the requirements of the AP Program, the school curriculum is improved, and teachers continue to receive training in the AP curriculum.

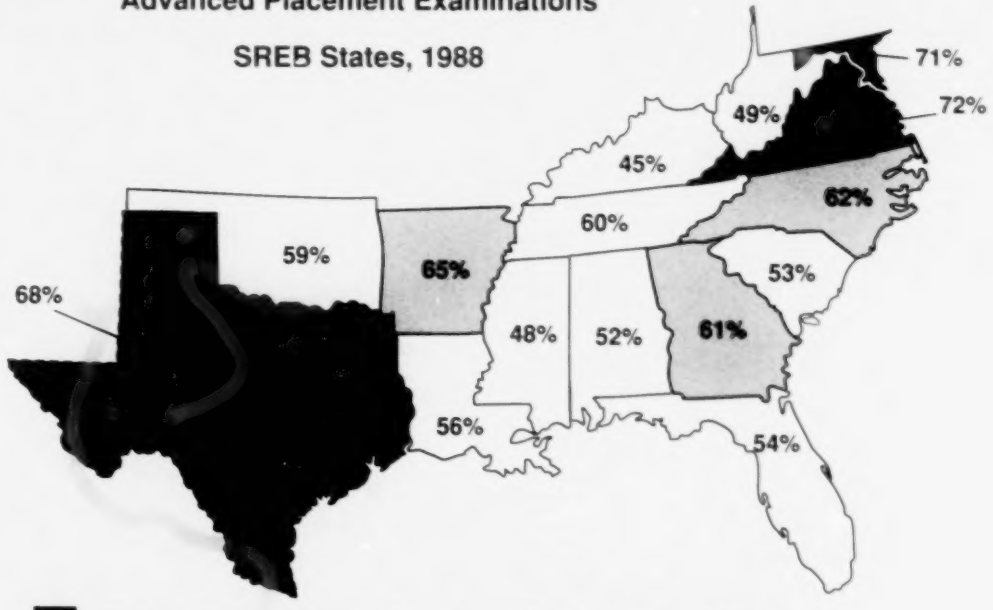
Increased Minority Participation

Minority participation in the Advanced Placement Program has increased in the SREB region, as it has nationwide. In SREB states, 21,262 of all AP examinations in 1988 were taken by minority students in public schools—21 percent compared with 26 percent nationwide.

Nationally, scores in 1988 for minority participants improved 34 percent over 1987 levels. Minorities also earned sufficiently high scores on more than 53,000 AP exams to qualify for college credit and/or advanced placement. In SREB states, the number of minority students earning AP scores of 3 or better more than doubled between 1984 and 1988—from 5,764 to 11,851, respectively. In nine SREB states, more than half of the minority students taking the AP examinations scored 3 or higher. Maryland and Virginia, for example, have consistently recorded significant proportions of

Figure 1
Percentage of Public School Students Scoring 3-5 on Advanced Placement Examinations

SREB States, 1988



States with percentages above the national average of 66%

States with percentages above the regional average of 61%

Table 3

Minority Student Performance on Advanced Placement Examinations In Public Schools — SREB States

1984 and 1988

	Total Number of Exams Taken by Minority Students		Total Number of Exams with Scores of 3 or Higher Taken by Minorities		Percent of Exams With Scores of 3 or Higher Taken by Minorities	
	1984	1988	1984	1988	1984	1988
United States	49,333	84,316	33,213	53,298	67%	63%
SREB States	9,864	21,262	5,764	11,851	58	56
Alabama	170	642	101	263	59	41
Arkansas	43	89	27	53	63	60
Florida	2,849	6,644	1,512	3,396	53	51
Georgia	500	1,136	223	524	45	46
Kentucky	89	285	50	135	56	47
Louisiana	126	379	69	215	55	57
Maryland	1,425	2,109	1,023	1,512	72	72
Mississippi	109	149	42	61	39	41
North Carolina	704	937	409	569	58	61
Oklahoma	94	172	54	91	57	53
South Carolina	461	1,559	197	590	43	38
Tennessee	503	922	192	405	38	44
Texas	1,455	3,361	907	2,113	62	63
Virginia	1,318	2,748	950	1,856	72	68
West Virginia	18	130	8	68	44	52

NOTE: Grades of 3 or higher on a scale of 3—5 are generally accepted for college credit and advanced placement.

SOURCE: The College Board, Advanced Placement Examiniation statistics, 1984 and 1988.

minorities with passing scores; nearly three-fourths of minority students tested in both 1984 and 1988 received scores of 3 or higher (Table 3).

Benefits of the Advanced Placement Program

Many colleges and universities grant both credit and advanced placement (placement in classes above the entering freshman level, as in honors or sophomore level courses) on the basis of qualifying examination results. At approximately 1,700 colleges and universities nationwide (345 in the 15 SREB states), grades of 3 or higher on at least three AP examinations often qualify a student to skip the freshman year and enter college as a sophomore. With continuing increases in college tuition, this savings in time and money—as much as the cost of an entire year of college—can be especially important to students from lower income families.

While the AP Program offers substantial benefits to participants at all levels, the greatest effect is seen in high schools that offer AP courses. High schools must strengthen their whole curriculum, including other college preparatory courses, so that the students are equipped to handle AP coursework. For example, one school in South Carolina, upon realizing that seniors must be prepared to take AP calculus, began adding trigonometry and analytical geometry to the 11th grade curriculum, and algebra II

in the 10th grade. As a result of this, more students now take algebra I and geometry in 8th and 9th grades. As high schools offering AP courses make more demanding courses available, higher goals and expectations are established for a broader group of students.

This effect is especially noticeable in schools that have large minority enrollments. As black and Hispanic students—who are attracted to AP courses in increasing numbers—excel, they provide important role models for other minority students. Programs that challenge students help raise expectations of minority students, encouraging them to continue toward professional and graduate schools. A recent report* indicates that minority students majoring in math and science in college were more likely to have taken Advanced Placement and honors courses in high school. Thus, growth in the AP program, both in the numbers of schools and students enrolled in the program, can be expected to have a significant impact in the future.

Teachers and Advanced Placement

Having the opportunity to teach Advanced Placement courses is a tangible reward for public school teachers. In some cases, the opportunity to teach AP courses has encouraged teachers to continue to teach at the secondary level, rather than leaving the profession.

Although they receive specialized training to help prepare them for the added workload, much of that preparation requires work after regular school hours, on weekends, or during the summer. Many activities, such as laboratory work or visits to special exhibits, also may require extra time outside of class. Those dedicated teachers who agree to take on AP courses report finding themselves rejuvenated by being able to offer exciting new experiences to students who otherwise might have been bored by standard high school fare.

What Does the Future Hold?

Having established more stringent minimum high school graduation requirements for public school students, states in the SREB region must move now toward higher level achievement and excellence standards for school systems. Steady growth of the Advanced Placement Program throughout the SREB region indicates that public school systems are making measurable progress in one area toward reaching recommended goals for student achievement. What better way for states and public school systems to demonstrate where they stand on academic achievement than by being able to offer participation in an honors or advanced program to all talented students?

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* Hilton, Thomas, et al. *Persistence in Science of High-Ability Minority Students.* Princeton, N.J.: Educational Testing Service, 1989.

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